To: Vaughn, Stephanie[Vaughn.Stephanie@epa.gov]
Cc: Sharon Budney[BudneySL@cdm.com]; kirchnersf@cdm.com[kirchnersf@cdm.com]; John.Claussen@CH2M.com[John.Claussen@CH2M.com]; Roger.McCready@CH2M.com[Roger.McCready@CH2M.com]; Willard Potter[otto@demaximis.com]; Stan Kaczmarek[StanK@demaximis.com]
From: Robert Law
Sent: Fri 3/29/2013 7:17:47 PM
Subject: RE: RM 10.9 Removal Action QAPP D - GW Seepage Measurement

Stephanie:

With respect to Comments 2 and 3, the CPG and its contractors are not able to install two sets of nested piezometers and allow them to stabilize prior to the week of April 8. The boat that is planned to be used does not have the capability to install piezometers. If the CPG and its contractors are required to install piezometers then we will not be able to conduct the work the week of April 8 and CMA has no openings until August 2013 - obviously this will have a significant impact completing the cap design.

Moreover, the CPG is using the UltraSeep meter for the direct measurement of groundwater seepage rather than a calculated flux using piezometers and assuming hydraulic conductivity values for the sediment (Comment 2) and the pressure head measurement that would be derived from water depth measurements (Comment 3). Can CDM provide specific rationale for including nested piezometers to estimate groundwater flux when the UltraSeep will provide a direct measurement of the same?

UltraSeep equipment has been used to take direct in-situ measurements at the following Superfund Sites without co-located piezometers:

- Portland Harbor, OR Superfund Site, multiple locations
- Clearlake CA Mercury Site
- Hylebos Waterway, Tacoma, WA
- Druid Lake, FL
- North Island Navy Site, San Diego
- Exxon Refinery, Baytown, TX
- Sag Harbor, NY Superfund site

The groundwater seepage measurements are used as seepage rate inputs (cm/day) to the CAPSIM model as the flux entering the bottom of the cap.

As such, if the CPG is to keep to current schedule to complete the cap design then the installation of piezometers and collecting water depth measurements are not feasible and the CPG respectfully

requests to for go the recommended installation of piezometers and water depth measurements as part of this field task.

CPG will incorporate Comment 1.

Please contact me with any questions or comments

Have a great holiday weekend

Thank you.

R/

Rob

Robert Law, Ph.D.
de maximis, inc.
rlaw@demaximis.com
Voice: 908-735-9315
Fax: 908-735-2132>>> "Vaughn, Stephanie" <Vaughn.Stephanie@epa.gov> 3/29/2013 8:54 AM >>>

Hi Rob,

Here are our comments on Field Modification 130322-1 on the RM 10.9 QAPP Addendum D:

1) Conduct calibration of seepage meter post-installation in addition to pre-installation

2) We recommend that piezometer nests (2 depths) be installed. They should be installed/monitored prior to seep testing with time to allow them to stabilize.

3) Water depth should be recorded at each station at time = 0 and monitored and reported for the entire test period in addition to the seep measurements and piezometric measurements. One continuous monitor could be used with just a start and end time stamped depth measurement at each station. There is no need for a depth meter at each station.

Please let me know if you have any questions.

Thanks,
Stephanie

From: Robert Law [mailto:rlaw@demaximis.com]
Sent: Friday, March 22, 2013 2:24 PM
To: Vaughn, Stephanie
Cc: Sharon Budney; kirchnersf@cdm.com; John.Claussen@CH2M.com; Roger.McCready@CH2M.com; Willard Potter; Stan Kaczmarek
Subject: RM 10.9 Removal Action QAPP D - GW Seepage Measurement
Importance: High

Stephanie:

Attached is Field Modification to QAPP D to conduct groundwater seepage measurements in support of the RM 10.9 cap design. We have been able to schedule Coastal Monitoring Associates (CMA) to conduct the work during the week of April 8; they have limited availability and the current schedule supports the finalizing the cap design. It is CPG's understanding from CMA that they have worked with Marc Greenberg in the past.

The CPG is also preparing an informational notice on the work for the community and river users which we will forward for your review early next week.

R/

Rob

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